

CLAIMS

What is claimed is:

- 1 1. A fiber optic module comprising:
2 a push-actuator to release the fiber optic module from a
3 cage assembly; and
4 one or more electro-optic transducers to convert optical
5 signals into electrical signals or electrical signals into
6 optical signals.
- 7 2. The fiber optic module of claim 1 wherein,
8 the fiber optic module is an SFP fiber optic module and the
9 cage assembly is an SFP cage assembly.
- 10 3. The fiber optic module of claim 1 wherein,
11 the push-actuator is a push button.
- 12 4. The fiber optic module of claim 1 wherein,
13 the push-actuator is a kick actuator.
- 14 5. The fiber optic module of claim 1 wherein,
15 the push-actuator includes one or more grooves to slideably
16 engage the fiber optic module.
- 17 6. The fiber optic module of claim 1 wherein,
18 the push-actuator slides to release the fiber optic module
19 from the cage assembly.
- 20 7. The fiber optic module of claim 1 wherein, the push-
21 actuator includes
22 one or more ramps which cause the fiber optic module to be

4 released from the cage assembly when the push-actuator is
5 pushed.

1 8. The fiber optic module of claim 1 further comprising:
2 a second actuator with one or more ramps along one side,
3 the push-actuator causes the second actuator to slide to release
4 the fiber optic module from the cage assembly.

1 9. The fiber optic module of claim 1 wherein,
2 the push-actuator includes
3 an orientation indicator to indicate the fiber optic
module which the push-actuator releases.

10. The fiber optic module of claim 1 wherein,
the push-actuator includes
a push tab,
a shaft coupled to the push tab at a first end, and
a hook coupled to a second end of the shaft.

11. The fiber optic module of claim 1 wherein,
the push-actuator is located at a bottom side of the fiber
optic module.

12. The fiber optic module of claim 1 further comprising:
a nose having a nose grip to pull out on the fiber optic
module.

13. The fiber optic module of claim 1 further comprising:
a pull-tab to disengage the fiber optic module from the
cage assembly.

14. The fiber optic module of claim 13 wherein,

2 the pull-tab includes a shield to contain EM radiation.

1 15. The fiber optic module of claim 13 wherein,
2 the pull-tab is located at a top side of the fiber optic
3 module and the push-actuator is located at a bottom side of the
4 fiber optic module.

1 16. The fiber optic module of claim 13 wherein,
2 the pull-tab is located at a bottom side of the fiber optic
3 module and the push-actuator is located at a bottom side of the
4 fiber optic module.

17. The fiber optic module of claim 13 wherein,
the pull-tab is coupled to ground.

18. The fiber optic module of claim 13 wherein,
the pull-tab includes
a pull grip having dimples to prevent slippage.

1 19. The fiber optic module of claim 13 wherein,
2 the pull-tab is formed of a conductive material.

1 20. The fiber optic module of claim 13 wherein,
2 the pull-tab is formed of a solid material.

1 21. The fiber optic module of claim 13 wherein,
2 the pull-tab is formed of metal.

1 22. The fiber optic module of claim 13 wherein,
2 the pull-tab is formed of a plastic.

1 23. The fiber optic module of claim 13 wherein,

2 the pull-tab includes
3 an arm to couple to the fiber optic module, and
4 a handle at an end of the lever arm for a user to grab
the pull-tab.

1 24. The fiber optic module of claim 13 wherein,
2 the handle of the pull-tab has
3 a grip to grip the handle with one or more fingers of
4 the user.

25. The fiber optic module of claim 13 further comprising:
a nose having a nose grip to pull out on the fiber optic
module.

26. The fiber optic module of claim 13 wherein,
the pull-tab includes
a pull grip,
a lever arm coupled to the pull grip,
a shield coupled to the lever arm, and
grounding tabs coupled to the shield.

1 27. A push-actuator for fiber optic modules having one or
2 more electro-optic transducers, the push actuator comprising:
3 a push button;
4 a push rod arm coupled to the push button at a first end;
5 and
6 a hook coupled to the push rod arm at another end to hook
7 to a second actuator.

1 28. The push-actuator of claim 27 wherein,
2 the push button is a kick actuator.

1 29. The push-actuator of claim 27 wherein,
2 the push-actuator slides to cause the second actuator to
3 release the fiber optic module from a cage assembly.

1 30. The push-actuator of claim 27 wherein, pushing the
2 push-actuator causes the second actuator to slide thereby
3 releasing the fiber optic module from a cage assembly.

1 31. The push-actuator of claim 27 wherein,
2 the push-actuator includes one or more grooves to slideably
engage the fiber optic module.

1 32. The push-actuator of claim 27 wherein, the second
2 actuator is a ramp actuator and includes
3 one or more ramps which cause the fiber optic module to be
released from a cage assembly when the push-actuator is pushed.

1 33. The push-actuator of claim 27 wherein,
2 the push button includes
3 an orientation indicator to indicate the fiber optic
4 module which the push-actuator releases.

1 34. The push-actuator of claim 27 wherein,
2 the push-actuator is located at a bottom side of the fiber
3 optic module.

1 35. A push-actuator for fiber optic modules having one or
2 more electro-optic transducers, the push actuator comprising:
3 a push button; and
4 a push rod arm coupled to the push button at a first end,
5 wherein pushing the push button causes the push rod arm to slide

6 thereby releasing the fiber optic module from a cage assembly.

1 36. The push-actuator of claim 35 further comprising:
2 one or more wedges coupled to a second end of the push rod
3 arm, wherein pushing the push button causes the one or more
4 wedges to slide thereby releasing the fiber optic module from a
5 cage assembly.

1 37. The push-actuator of claim 35 wherein,
2 the push-button includes
3 an orientation indicator to indicate the fiber optic
module which the push-actuator releases.

38. The push-actuator of claim 35 wherein,
the push-actuator is located at a bottom side of the fiber
optic module.

39. The push-actuator of claim 35 wherein,
the push-actuator includes grooves to slideably engage the
fiber optic module.

1 40. A fiber optic module comprising:
2 means for converting optical signals into electrical
3 signals or electrical signals into optical signals; and
4 means for disengaging the fiber optic module from a cage
5 assembly by depressing a push button.

1 41. The fiber optic module of claim 40 further comprising:
2 means for slideably engaging the means for disengaging the
3 fiber optic module.

1 42. The fiber optic module of claim 40 further comprising:

2 means for withdrawing the fiber optic module from the cage
3 by pulling.

1 43. The fiber optic module of claim 40 further comprising:
2 means for slideably engaging the means for disengaging the
3 fiber optic module.

1 44. The fiber optic module of claim 40 further comprising:
2 means for indicating the fiber optic module which the means
3 for disengaging releases.

1 45. The fiber optic module of claim 40 wherein,
2 the means for disengaging the fiber optic module includes,
3 means for lifting a latch to disengage the fiber optic
4 module from the cage assembly by depressing the push button.

1 46. A method of disengaging a fiber optic module from a
2 cage assembly comprising:
3 pushing a push-button to release a latch; and
4 pulling a pull-tab to disengage the fiber optic module from
5 the cage assembly.

1 47. The method of claim 46 comprising:
2 determining if the latch has been released.

1 48. A method of engaging a fiber optic module to a cage
2 assembly comprising:
3 inserting the fiber optic module into an opening in the
4 cage assembly;
5 pushing the fiber optic module into the cage assembly; and
6 determining if the fiber optic module is fully inserted
7 into the cage assembly by checking whether a push button coupled

8 to the fiber optic module is fully extended out.

1 49. A method of claim 48 further comprising:

2 pushing the fiber optic module into the cage assembly if
3 the push button is not fully extended out.

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